



# EPIDEMIOLOGY BULLETIN

E. Anne Peterson, M.D., M.P.H., Acting Health Commissioner Robert B. Stroube, M.D., M.P.H., State Epidemiologist Elizabeth Barrett, D.M.D., M.S.P.H., Editor Vickie L. O'Dell, Layout Editor

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### Disease Reporting and Control in Virginia

#### Introduction

On January 6, 1999 a new version of the *Regulations for Disease Reporting and Control* went into effect. These regulations define the procedures by which disease surveillance, a critical component of the disease control process, is conducted in Virginia. This issue of the *Virginia Epidemiology Bulletin* will discuss the purposes and importance of disease reporting as a vital component in controlling the spread of disease and highlight the changes that are included in the revised regulations.

All physicians, directors of medical care facilities, and directors of laboratories must report persons diagnosed with any of the reportable diseases (Table 1) to the local health department serving the city or county in which the practice, facility, or laboratory is located. Persons in charge of schools and day care centers are required to report outbreaks. Reporting is usually accomplished by completing an Epi-1 form (Figure 1) and mailing it to the health department, although laboratories often use their own form for reporting. The diseases listed in bold capital letters in Table 1, as well as outbreaks or any other unusual occurrence of disease, require rapid communication, such as by telephone.

The health department protects the confidentiality of the information received, and anyone reporting information to the health department according to the provisions of the

#### In This Issue:



regulations is immune from liability for so reporting. A copy of the regulations and the new reporting form will be mailed this spring to all physicians, laboratories, hospitals, and health departments.

#### Purposes of Surveillance

Disease surveillance is linked to action. In the regulations, surveillance is defined as "the on-going systematic collection, analysis, and interpretation of outcome-specific data for use in the planning, implementation and evaluation of public health practice. A surveillance system includes the functional capacity for data analysis as well as the timely dissemination of these data to persons who can undertake effective prevention and control activities." Surveillance data are used to stimulate the implementation and evaluation of disease control measures, detect outbreaks, document disease transmission, quantify morbidity and estimate trends, identify risk factors for disease acquisition, and facilitate research.

Health care providers are key to the disease surveillance process. Routine reporting in a timely manner is very important to disease intervention. Diseases must first be recognized and reported to the health department before community-based disease control activities can be initiated. Failure to report may result in an increase in the number of cases of a disease in the population.

When the health department receives a morbidity report, a determination is made regarding whether actions are necessary to interrupt the spread of disease. Public health interventions are implemented as appropriate for each situation. Examples of interventions that may be appropriate include providing prophylaxis or testing of contacts of persons with certain diseases, removing a child from a day care situation, removing a foodhandler

from a restaurant, or providing education or counseling about disease transmission and risky behaviors.

The health department also uses morbidity reports to assess the risk of disease in the community and often provides feedback to health care providers about current disease trends or the occurrence of outbreaks. The health department is available to provide statistics on reportable diseases as well as consultation about disease control procedures.

Administratively, when a local health department receives a morbidity report, staff determine if the patient is a resident of that locality. If not, the report is forwarded to the health department serving the locality of residence of the person who has the disease. Reports are forwarded from local health departments to the state health department's central office. That office notifies other states of situations that may affect their residents, compiles statewide statistics, and is responsible for reporting Virginia's official morbidity each week to the federal Centers for Disease Control and Prevention.

Changes to the *Regulations for Disease Reporting and Control* include the addition of some diseases and the removal of others from the list of conditions under surveillance, multiple changes specifically directed at laboratories, and miscellaneous other changes, as described below.

## Major Changes to the Regulations

(1) Diseases Added to the List of Reportable Diseases — The following diseases have been added to the list of conditions that must be reported to the health department: cryptosporidiosis, cyclosporiasis, ehrlichiosis, *Escherichia coli* O157:H7 and other



#### Table 1. Reportable Disease List

Conditions listed in capital and bold letters require rapid communication.

Acquired immunodeficiency syndrome (AIDS)

Amebiasis

**ANTHRAX** 

Arboviral infection

#### **BOTULISM**

Brucellosis

Campylobacter infection

Chancroid

Chickenpox

Chlamydia trachomatis infection

#### **CHOLERA**

Cryptosporidiosis

Cyclosporiasis

#### **DIPHTHERIA**

**Ehrlichiosis** 

Escherichia coli O157:H7 and other enterohemorrhagic E. coli infections

Giardiasis

Gonorrhea

Granuloma inguinale

#### HAEMOPHILUS INFLUENZAE INFECTION, INVASIVE

Hantavirus pulmonary syndrome Hemolytic uremic syndrome (HUS)

Hepatitis, Acute Viral

#### **HEPATITIS A**

Hepatitis B

Hepatitis C

Other Acute Viral Hepatitis

Human immunodeficiency virus

(HIV) infection

Influenza

Kawasaki syndrome

Lead - elevated blood levels

Legionellosis

Leprosy (Hansen disease)

Listeriosis

Lyme disease

Lymphogranuloma venereum

Malaria

MEASLES (Rubeola)

MENINGOCOCCAL INFECTION

Mumps

Ophthalmia neonatorum

OUTBREAKS, ALL (including foodborne, nosocomial, occupational, toxic substancerelated, waterborne, and other

PERTUSSIS (Whooping cough)

**PLAGUE** 

POLIOMYELITIS PSITTACOSIS

outbreaks)

#### RABIES, HUMAN AND ANIMAL

Rabies treatment, post-exposure Rocky Mountain spotted fever Rubella (German measles), including congenital rubella syndrome Salmonellosis

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Shigellosis

Streptococcal disease, Group A, invasive

Syphilis (report **PRIMARY and SECONDARY** syphilis by rapid

means)

**Tetanus** 

Toxic shock syndrome Toxic substance-related illness

Trichinosis (Trichinellosis)

#### TUBERCULOSIS DISEASE

Tuberculosis infection in children age <4 years (Mantoux tuberculin skin test reaction ≥10 mm)

Typhoid fever

**Typhus** 

Vancomycin-resistant Staphylococcus aureus

Vibrio infection

YELLOW FEVER

enterohemorrhagic *E. coli* infections, hantavirus pulmonary syndrome (HPS), hemolytic uremic syndrome (HUS), invasive Group A streptococcal (GAS) disease, tuberculosis (TB) infection in children age 0-3 years, and vancomycin-resistant *Staphylococcus aureus* (GISA, glycopeptide-resistant) infection.

These diseases have the potential to cause outbreaks (cryptosporidiosis, cyclosporiasis, *E. coli* O157:H7 infection), indicate problems in vector control (ehrlichiosis, HPS), signal that related diseases may be found in patient contacts (HUS, TB infection in young children), help us identify and reduce the risk to contacts (GAS), or alert us about a critical treatment failure (GISA). Reporting these dis-

eases to the health department will help epidemiologists better understand modes of transmission and methods of prevention. It will also lead to earlier identification of outbreaks so that public health interventions may be implemented as quickly as possible.

In general, a disease is added to the reportable disease list if it is new and more information is needed to define its epidemiology, if a public health intervention is available to prevent additional persons from becoming ill, or if information on that condition may yield information on related conditions (as with HUS and TB infection in young children).

(2) Diseases Removed from the List of Reportable Diseases — The following diseases have been removed from the list of conditions that must be reported to the health department: aseptic meningitis, bacterial meningitis (unless caused by Haemophilus influenzae, Neisseria meningitidis, or Listeria monocytogenes), primary and post-infectious encephalitis (except the arboviral encephalitides, such as Eastern Equine Encephalitis and LaCrosse Encephalitis, which are still reportable), unspecified viral hepatitis, histoplasmosis, leptospirosis, occupational illnesses (except for lead and other conditions included under toxic substances-related conditions), phenylketonuria, Q fever, Reye syndrome, smallpox, and tularemia.

Considerations involved in deciding whether to delete a disease from the reportable disease list include the severity of the disease, how commonly the disease occurs, whether the health department conducts follow-up on individual reported cases, whether reporting is necessary in order to identify risk factors for the disease, whether reporting has been effective in identifying the true rate of disease, and whether the disease is under surveillance at the national level. All of these factors were considered when determining which diseases to eliminate from the conditions under public health surveillance. The health department is interested in learning about ANY outbreaks; therefore, if outbreaks of any condition, even those that have been removed from the reportable disease list, are identified, the health department should be notified immediately.

(3) Changes for Laboratories — The list of conditions that laboratory directors are responsible for reporting to the health department and the associated confirmatory tests are presented in Table 2. In the latest revision of the *Regulations for Disease Reporting and Control*, the following have been added to the list reportable by laboratories: amebiasis, arboviral infection, botulism, brucellosis, chancroid, cryptosporidiosis, cyclosporiasis, *E. coli* O157:H7 and other enterohemorrhagic *E. coli*, giardiasis, invasive *H. influenzae* in-

Influenza activity in Virginia has been characterized as regional since December 16, 1998. A laboratory-confirmed case of influenza type A has been reported from the northern health planning region and a laboratory-confirmed case of influenza type B has been reported from the northwest health planning region.

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#### Figure - Epi-1 Reporting Form MAIL THE TOP TWO COPIES TO YOUR LOCAL HEALTH DEPARTMENT VIRGINIA DEPARTMENT OF HEALTH **Confidential Morbidity Report** Patient's Name (Last, First, Middle Initial): SSN: Patient's Address (Street, City or Town, State, Zip Code): Work #: ( City or County of Residence Date of Birth: Age: Race: ☐ Asian/Pacific Islander ☐ White ☐ Black Hispanic: □Yes Sex: □ F □ Other (specify): DISEASE OR CONDITION: Case Status: Date of Onset: ☐ Confirmed ☐ Suspected Date of Diagnosis: Death: ☐ Yes ☐ No Influenza: (Report # and type only. No patient identification). Death Date Number of Cases: Type, if known: Physician's Name: Phone: ( Address: Hospital Admission? ☐ Yes ☐ No Hospital Name: Date of Admission: Chart ID No: **Laboratory Information and Results** Source of Specimen: Laboratory Test: Results: Name/Address of Lab: CLIA Number Other Information Comments: (E.g., Risk Situation [Food Handling, Patient Care, Day Care], Treatment [including dates], Immunization Status [including dates], Signs/Symptoms, Exposure, Outbreak Associated, etc.) For Health Department Use: Date Received: Name, Address, and Phone Number of Person Completing This Form: Date Reported: Check here if you need more o these forms, or call your local health department.

Please complete as much of this form as possible.

Form Epi-1, 11/98

fection, hepatitis B (IgM only), measles, mumps, rubella, invasive Group A streptococcal disease, vancomycin-resistant *S. aureus* infection, and *Vibrio* infections other than cholera. The reporting requirement for *Mycobacteria* has been expanded to include acid fast bacilli and drug susceptibility test results for *M. tuberculosis*, in addition to the mycobacterial identification. New confirmatory tests have been added for many diseases.

Another major change for laboratories is the requirement to do rapid reporting of certain conditions to the health department. Laboratories are often the first to identify diseases of public health importance, and rapid reporting to the health department will facilitate public health intervention to protect the contacts of the ill individual. In the past, the rapid reporting requirement applied to physicians and directors of medical care facilities; now it will also apply to laboratory directors. A final change for laboratories is the requirement that hospital laboratories submit certain cultures (Table 3) to the state laboratory (Division of Consolidated Laboratory Services of the Department of General Services) in addition to sending reports of the culture to the local health department. A similar requirement was already included in the *Regulations for the Licensure of Hospitals*, but this is a new item in the disease reporting regulations.

(Be sure your address

## Other Changes to the Regulations

Additional notable changes include the following:

- Definitions: new definitions for child care center, clinic, condition, hepatitis
   C, occupational outbreak, outbreak, school, surveillance, TB disease and
   TB infection in children, and vancomycin-resistant S. aureus.
- Change of definition of reportable blood lead levels in children to 10 μg/ dL or higher and addition of requirement to report adults with blood lead levels at or above 25 μg/dL.
- Expansion of the definition of human immunodeficiency virus (HIV) infection (see Table 2): the diagnostic criteria are no longer limited to blood tests (tests on saliva or any other body fluid may be considered confirmatory), and additional laboratory procedures are allowed (for example, any laboratory result which indicates the presence of HIV antigen, nucleic acid, or antibodies may be considered confirmatory).
- Addition of new section on emerging diseases that requires the rapid reporting of any unusual occurrence of disease and permits the health department to establish special surveillance systems.
- Addition of requirement to conduct contact tracing for tuberculosis by local health departments.
- Physician Reporting: deletion of requirement to report suspected carriers (suspected cases should still be reported); authorization for a physician's designee to report; and allowance for provider organizations to report on behalf of member physicians.
- Requirement for child care center directors to report outbreaks to the health department, as is required of schools.
- Immunization: changes in doses or ages for diphtheria-tetanus-pertussis and measles-mumps-rubella vaccines; addition of hepatitis B vaccine to the list of childhood vaccines.
- Addition of requirement that pregnant women be tested for hepatitis B infection (HBsAg).
- Deletion of the memory loss disorder reporting section.

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#### Table 2. List of Conditions Reportable by Laboratory Directors\*

Any person who is in charge of a laboratory conducting business in the Commonwealth shall report any laboratory examination of any specimen derived from the human body, whether performed in-house or referred to an out-of-state laboratory, which yields evidence, by the laboratory method(s) indicated or any other confirmatory test, of a disease listed below. Conditions listed in capital and bold letters require rapid communication.

indicated or any other cor	firmatory test, of a disease listed below. Conditions listed in capital and bold letters require rapid communication.							
Conditions	Methods							
Amebiasis	microscopic examination or antigen detection method or serology							
ANTHRAX	culture							
Arboviral infection	viral isolation or serology							
BOTULISM	identification of toxin in stool or serum or by culture							
Brucellosis	culture or serology or immunofluorescence of Brucella spp. in a clinical specimen							
Campylobacter infection	culture							
Chlamedia trachomatic	culture							
Chlamydia trachomatis infection	culture or by antigen or nucleic acid detection methods							
CHOLERA	culture							
Cryptosporidiosis	microscopic examination of stool or biopsy specimens or by antigen detection method							
Cyclosporiasis	microscopic examination of stool							
DIPHTHERIA	culture or histopathologic diagnosis							
Escherichia coli O157:H7	isolation of E. coli O157:H7 or other enterohemorrhagic E. coli from a specimen or isolation of Shiga toxin-producing E. coli O157							
	nonmotile (unable to detect flagellar factor) from a clinical specimen							
Giardiasis	microscopic examination or antigen detection method							
Gonococcal infection	culture or microscopic examination or by antigen or nucleic acid detection method							
H. INFLUENZAE	culture or polymerase chain reaction of a normally sterile site							
INFECTION								
HEPATITIS A	serology specific for IgM antibodies							
Hepatitis B	serology specific for IgM antibodies							
Human immunodeficiency	laboratory results which indicate the presence of HIV antigen, nucleic acid, or antibodies (such as at least two enzyme-linked							
virus (HIV) infection	immunosorbent assays [done in duplicate at the same time or singly at different times], and a supplemental test such as the western blot							
Influenza	or by rapid tests with confirmation) culture or serology							
Lead-elevated blood levels	··							
	venous blood lead level ≥10µg/dL in children ages 0-15 years or ≥25 µg/dL in persons older than 15 years of age							
Legionellosis	culture, direct flourescent antibody test, serology, urine antigen detection method or polymerase chain reaction							
Listeriosis	culture							
Malaria	microscopic examination or polymerase chain reaction							
MEASLES	serology specific for IgM antibodies or paired sera results indicating a significant rise in antibody level or by culture							
MENINGOCOCCAL INFECTION	culture of a normally sterile site							
Mumps	Serology specific for IgM antibodies or paired sera results indicating a significant rise in antibody level or by culture							
MYCOBACTERIAL DISEASES	report any of the following: 1. Acid fast bacilli on smear; 2. Mycobacterial identification- preliminary identification by rapid methodologies and/or by culture; 3. Drug susceptibility test results for <i>M. tuberculosis</i> .							
PERTUSSIS	confirmed by culture or polymerase chain reaction or suspected by direct fluorescent antibody test							
PLAGUE	culture or direct fluorescent antibody test							
POLIOMYELITIS	culture or serology							
RABIES IN ANIMALS	direct fluorescent antibidy test							
Rubella	serology specific for IgM antibodies or paired sera results indicating a significant rise in antibody level or by culture							
Salmonella infection	culture							
Shigella infecton	culture							
Streptococcal disease, Group A	culture from a normally sterile site							
SYPHILIS	serology or dark field examination							
Trichinosis	serology or microscopic examination of a muscle biopsy							
Vancomycin-resistant Staphylococcus aureus	antimicrobial susceptibility testing conducted on culture							
Vibrio infection	culture							
*Independent pathology labor	oratories must also report cancer. For more information, call the Virginia Cancer Registry at 804/786-1668.							

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**Table 3.** Cultures indicating the presence of these diseases must be forwarded by hospital laboratories to the state laboratory when a report is made to the health department.

Anthrax
Cholera
Diphtheria
E. coli O157:H7
H. influenzae infection, invasive
Meningococcal infection
M. tuberculosis
Pertussis
Plague
Poliomyelitis
Salmonella infection
Streptococcal infection,
Group A, invasive

- Changes in the Epi-1 form (Figure 1): addition of social security number; addition of area to record information about death.
- Cancer Reporting: clinically or pathologically diagnosed cancers and benign brain tumors are reportable; addition of 'clinic' to those required to report as required by the Code of Virginia; addition of physician requirement to report if other reporting sources have not reported as required by the Code of Virginia (Table 4); addition of more required fields of data; encouragement of electronic reporting in the format prescribed by the North American Association of Central Cancer Registries; creation of a new reporting form; requirement that additional documentation accompany

paper reports; requirement that reporting occur monthly and within six months of the patient's cancer diagnosis.

#### For More Information

For more information on disease reporting and control, please contact your local health department or the Virginia Department of Health's Office of Epidemiology. A copy of the final version of the latest amendment of the *Regulations for Disease Reporting and Control*, as published on pages 880-892 of the December 7, 1998 issue of the *Virginia Register*, is available on the Internet at http://legis.state.va.us/codecomm/register/regindex.htm (from the home page, go to 'How to Get Copies').

Submitted by C. Diane Woolard, Ph.D., M.P.H., Director, Division of Surveillance and Investigation, Virginia Department of Health.

## Common Myths about Disease Surveillance

## Myth #1. I don't need to report because someone else will do it.

While multiple health care professionals are responsible for reporting the same information, the health department does not receive very many duplicate reports. Sometimes information is needed from more than one source, such as when clinical information is needed from physicians to supplement the laboratory results received. Computer systems are in place to weed out duplicate reports. Therefore, if all who are required to report complied with the regulations, an overinflation of morbidity statistics would not occur.

# Myth #2. The health department does not need to know the name of a person with disease.

For many diseases, the health department needs to contact the patient, his family, or other close contacts to provide health education or institute disease control measures in order to interrupt the disease transmission cycle. Names are also useful for identifying duplicate reports received on the same individual. The identities of patients and physicians are kept strictly confidential by the health department, as required by law.

## Myth #3. The health department does not do anything with the information it receives.

Morbidity reports contain very important information on which the health department acts. Each case is assessed to determine what disease control measures can be put in place to stop disease transmission. Compiling statistics from case reports received is useful in

determining patterns of disease in a community so that disease control activities can be planned and evaluated.

## Myth #4. I should not report until the diagnosis is confirmed.

The regulations require physicians to report "any person who is suffering from or who is suspected of having a reportable disease..." Some diseases, notably tuberculosis, should be reported based on a presumptive diagnosis. This gives the health department an opportunity to assess the need for control measures to minimize the risk to the public.

# Myth #5. Only conditions listed on the reportable disease list should be reported to the health department.

Any circumstance in which an individual or group experiences an illness that may be of public health importance should be reported to the health department.

# Myth #6. Diseases which occur in military personnel or their dependents should not be reported.

All cases of reportable diseases diagnosed in Virginia should be reported. Notifying the health department of a reportable disease, whether the person is in the military or civilian population, is vital to our disease control efforts.

#### Table 4. When Do Physicians Report Cancer to the Health Department?\*

- A physician <u>does</u> need to report if any of the following apply:
- The diagnosis of cancer was made using clinical criteria in the absence of pathology and the patient was not hospitalized.
- The cancer was confirmed by a physician office-based pathology laboratory.
- 3. The cancer was confirmed by a hospital-based pathologist, the identified patient was not affiliated with the hospital on either an inpatient or outpatient basis, and the pathologist did not notify a cancer registry about the case. Note: this typically occurs when a hospital pathologist examines

- specimens for non-hospital providers on a contractual basis.
- The confirmation was made by an out of state pathology laboratory.
- A physician <u>does not</u> need to report if any of the following apply:
- 1. The cancer has been diagnosed or treated in a hospital located in Virginia.
- The cancer has been diagnosed or treated in an outpatient clinic located in Virginia.
- 3. The cancer has been confirmed by an independent pathology laboratory located in Virginia.
- The cancer is a basal or squamous cell carcinoma of the skin.

\*For more information about reporting cancer, call the Virginia Cancer Registry at 804/786-1668.

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	Tot	Total Cases Reported, December 1998							
		Regions					Total Cases Reported Statewide, January through December		
Disease	State	NW	N	SW	С	E	This Year	Last Year	5 Yr Avg
AIDS	82	12	17	8	13	32	963	1175	1334
Campylobacteriosis	69	14	14	17	17	7	700	644	722
Giardiasis	72	10	31	11	10	10	504	465	380
Gonorrhea	738	38	73	83	196	348	9200	8731	10678
Hepatitis A	31	16	6	4	3	2	226	250	211
Hepatitis B	16	0	6	2	3	5	108	137	143
Hepatitis NANB	2	0	1	0	1	0	13	27	29
HIV Infection	72	3	14	6	14	35	825	996	972
Influenza	14	1	4	8	0	1	1139	517	929
Legionellosis	6	1	1	1	0	3	26	34	29
Lyme Disease	7	0	3	1	0	3	72	67	81
Measles	0	0	0	0	0	0	2	1	2
Meningitis, Aseptic	24	4	7	6	1	6	240	262	391
Meningitis, Bacterial <sup>‡</sup>	8	2	2	2	0	2	57	97	98
Meningococcal Infections	6	1	1	0	1	3	49	60	62
Mumps	4	0	2	0	0	2	12	21	31
Pertussis	17	12	1	0	2	2	54	59	62
Rabies in Animals	30	11	8	3	5	3	549	690	515
Rocky Mountain Spotted Fever	0	0	0	0	0	0	14	23	29
Rubella	0	0	0	0	0	0	1	1	1
Salmonellosis	118	24	18	23	26	27	1135	1120	1179
Shigellosis	15	2	11	1	1	0	200	416	601
Syphilis, Early <sup>§</sup>	19	0	2	1	7	9	379	615	1048
Tuberculosis	68	8	16	13	13	18	343	349	378

Localities Reporting Animal Rabies This Month: Accomack 1 raccoon; Amelia 1 skunk; Arlington 2 raccoons; Bath 1 donkey; Caroline 1 skunk; Chesapeake 1 raccoon; Fairfax 1 cat, 2 raccoons; Fauquier 1 raccoon; Hanover 1 raccoon; Henry 1 skunk; Loudoun 2 raccoons; Louisa 1 fox, 1 skunk; Newport News 1 raccoon; Page 1 cat, 1 fox; Patrick 1 bobcat; Powhatan 1 raccoon; Prince Edward 1 raccoon, 1 skunk; Prince William 1 skunk; Rockingham 1 cat; Shenandoah 1 skunk; Smyth 1 bobcat; Spotsylvania 1 cat; Waynesboro 1 raccoon.

Occupational Illnesses: Asbestosis 22; Carpal Tunnel Syndrome 37; De Quervain's Syndrome 1; Hearing Loss 16; Lead Poisoning 1; Mesothelioma 1; Pneumoconiosis 13.

\*Data for 1998 are provisional. ‡Other than meningococcal. §Includes primary, secondary, and early latent.

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